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# THE BRYOLOGIST,

## A DEPARTMENT OF THE FERN BULLETIN,

DEVOTED TO THE STUDY OF NORTH AMERICAN MOSSES.

ISSUED QUARTERLY.

EDITED BY DR. A. J. GROUT, BOY'S HIGH SCHOOL, BROOKLYN, N. Y.

To whom all correspondence regarding the mosses should be addressed.

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### KEY TO THE MNIMUMS OF NORTHEASTERN NORTH AMERICA.

1. Leaves not bordered . . . . . 2.  
    Leaves bordered . . . . . 3.
2. Plants large, leaves entire or very slightly serrate by projecting cells; leaf cells twice as long as broad . . . . .  
    Plants much smaller, leaves usually serrate; leaf cells isodiametric (*i. e.*, as broad as long) . . . . . *M. cinclidioides.*  
    *M. stellare.*
3. Leaves entire . . . . . 4.  
    Leaves serrate, with single teeth . . . . . 7.  
    Leaves serrate, with teeth in pairs . . . . . 11.
4. Leaves costate to apex . . . . . *M. punctatum.*  
    Costa vanishing below apex . . . . . 5.
5. Upper leaf cells isodiametric . . . . . *M. hymenophylloides.*  
    Upper leaf cells longer than broad . . . . . 6.
6. Margin of leaves thickened, of 2-4 layers; dioicous; capsule oval . . . . . *M. punctatum*, var. *elatum.*  
    Margin of leaves not thickened; synoicous; capsule roundish . . . . . *M. pseudopunctatum.*
7. Basilar branches stoloniform; capsules single or clustered. 8.  
    Basilar branches erect or stems simple; capsules clustered. . . . . *M. Drummondii.*
8. Leaves rounded at apex, mucronate; operculum rostrate. . . . . *M. rostratum.*  
    Leaves acuminate; operculum mamillate or apiculate . . . . . 9.
9. Leaves serrate to base, teeth usually more than one cell in length . . . . . 10.  
    Leaves serrate to middle, teeth consisting of a single cell. . . . . *M. sylvaticum.*
10. Dioicous; operculum mamillate . . . . . *M. cuspidatum.*  
    Synoicous; operculum apiculate . . . . . *M. medium.*

- 11. Costa vanishing below apex . . . . . *M. hornum*.  
Costa reaching apex . . . . . 12.
- 12. Costa toothed on the back; dioicous . . . . . 13.  
Costa not toothed on the back; synoicous . . . . . 14.
- 13. Costa excurrent in upper leaves; leaf cells 0.18–0.030 mm.  
Costa percurrent; leaf cells about 0.015 mm. . . . . *M. pseudolycopodioides*.  
Costa percurrent; leaf cells about 0.015 mm. . . . . *M. orthorhynchum*.
- 14. Capsules clustered . . . . . *M. spinulosum*.  
Capsules solitary . . . . . *M. marginatum*.

It is to be regretted that the question of plant names should arise to bother beginners, but many of those in Lesquereux and James' Manual are untenable. We have chosen to use the nomenclature of Braithwaite's "British Moss Flora," which is also followed in the editor's "Vermont Mosses." Mrs. Smith very kindly contributes a table of synonyms.

In using the key it will be well to remember that *M. cuspidatum*, var. *rugicum* often has entire leaves. The American *M. lycopodioides* of L. & J. is doubtfully the same as the European plant of the same name, and hence was called *M. pseudolycopodioides* C. M. & Kindb. Mrs. Britton informs us that the plant we described in the July issue as *M. punctatum* is really the variety *elatum*. The variety grows on the ground in bogs, while the species grows on wet stones and is much smaller.

The writer has found *M. stellare* and *M. cinclidioides* abundant in Plymouth, N. H.; both sterile except a very few capsules of *M. stellare*. *M. stellare* grows on humus at the base of trees in swampy woods. *M. cinclidioides* in the swampy places near by; it resembles *M. punctatum*, var. *elatum* in appearance, but is easily distinguished by the non-margined leaves.

Mrs. E. G. Britton very kindly furnished us with a list of the Mniums of this region, and has promised an article on their habits and distribution for the January issue.—A. J. G.

#### SYNONYMS.

In the list of species of Mnium found in eastern United States the first name given is the one used by Dr. Grout in his keys. B. stands for Braithwaite, "British Moss Flora;" L. & J. for Lesquereux & James, "Manual of Mosses of N. A.;" D. & J. for Dixon & Jameson, "Student's Handbook British Mosses," and H. for Husnot, "Muscologia Galliæ." In cases where any of these authorities are omitted, it means that the moss is not treated by those authors:

1. *M. ciliare* (Grev.) Lindb.=*M. affine*, var. *ciliare* (Grev.) C. M. See Limpricht "Laubmoose," p. 479.
2. *M. cinclidioides* (Blytt) Hüb. of B.=*M. cinclidioides* Hüb. of L. & J. and D. & J. and *M. cinclidioides* Blytt. of H.
3. *M. cuspidatum* (L.) Neck. of B.=*M. affine* Bland. of L. & J. and D. & J. and *M. affine* Schw. of H. Its varieties are *M. affine*, var. *elatum* B. & S. of authors cited. *M. affine*, var. *rugicum* B. & S. of L. & J. and D. & J.=*M. affine*, var. *rugicum* Laur. of B.
4. *M. Drummondii* B. & S. of L. & J.
5. *M. hornum* L. Same by four authors cited.
6. *M. hymenophylloides* Hüb. of L. & J. and H.
7. *M. marginatum* (Dicks.) P. Beauv. of B. & H.=*M. serratum* Laich of L. & J.=*M. serratum* Schrad. of D. & J.
8. *M. medium* B. & S. of L. & J.=B. note Vol. II., p. 243=*M. affine* Schw., var. *medium* of H.
9. *M. orthorrhynchum* B. & S.=Same by all authors cited.
10. *M. punctatum* Hedw. of L. & J. and H.=*M. punctatum* L. of B. and D. & J.=*M. punctatum* Hedw. var. *elatum* B. & S. of L. & J. and H.=*M. punctatum* L. var. *elatum* Schimp. of B. and D. and J.
11. *M. pseudopunctatum* B. & S. of B.=*M. subglobosum* B. & S. of L. & J., D. & J., and H.
12. *M. pseudolycopodioides* C. M. & Kindb.=*M. lycopodioides* (Brid.) Schwaegr. of L. & J. See note under key.
13. *M. silvaticum* Lindb. of B.=*M. cuspidatum* Hedw. of L. & J. and H.
14. *M. spinulosum* B. & S. of L. & J. and H. See note, D. & J., p. 348.
15. *M. stellare* Reich. of all authors cited.
16. *M. rostratum* Schrad. of B. and D. & J.=*M. rostratum* Schwagr. of L. & J. and H.—*A. M. S.*

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## SOME ADDITIONAL NOTES ON THE METHODS OF MICROSCOPIC EXAMINATION OF MOSSES.

BY JOHN M. HOLZINGER.

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THE electric current runs along the line of least resistance. So, in our working methods on mosses, we strive to find a plan that shall lead to results exact and satisfactory by a way most direct and least expensive of time and tools. I have read with interest the article on this subject in the April *BRYOLOGIST*; and since my own method of work is in part different from those described, I gladly furnish it to our younger moss students,